



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,416	12/09/2003	Robert B. Nilsen	1571.2029-005	3928

21005 7590 02/15/2007
HAMILTON, BROOK, SMITH & REYNOLDS, P.C.
530 VIRGINIA ROAD
P.O. BOX 9133
CONCORD, MA 01742-9133

EXAMINER

PHAN, JAMES

ART UNIT	PAPER NUMBER
----------	--------------

2872

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/731,416

Applicant(s)

NILSEN ET AL.

Examiner

James Phan

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-13, 15-40, 43-68, 70-81 and 83-88 is/are pending in the application.
- 4a) Of the above claim(s) 4-13, 15, 30-40, 43-68, 70-81 and 83-88 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-29 is/are allowed.
- 6) ☒ Claim(s) 44 is/are rejected.
- 7) ☒ Claim(s) 16, 18, 24, 25 and 45-50 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The indicated allowability of claim 44 is withdrawn in view of the reference to Stump et al. The examiner apologizes for any inconvenience that might have caused. Rejection based on the reference to Stump et al follow.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 44 is rejected under 35 U.S.C. 102(b) as being anticipated by Stump et al.

“A method for forming an optical structure comprising:

providing a substrate; and

providing a plurality of two-sided optical components along the substrate, wherein at least one side of substantially all of the components is air-backed and the other side of substantially all of the components is substantially wetted-out.” defined in claim 44 is inherently disclosed because Stump et al discloses an optical structure (multi-sided retroreflector 20') having a substrate (binder 30); and a plurality of two-sided optical components (microspheres 22 with reflecting layer 40; see “Note” below) provided on the substrate, wherein at least front side of substantially all of the components is air backed (see air gap 41) and the other side (rear side) of substantially all of the components is substantially wetted-out by the binder which is formed of a clear

thermoplastic resin such as polyester (column 3, lines 13-14, and column 5, lines 51-53). See Fig. 2.

Note that the front side of each microsphere provides a light transmitting function and the rear side of each microsphere provides a light reflecting function; because the front side and the rear side have optical functions, each of the microspheres with a reflecting layer in the rear side has been taken as a two-sided optical component.

Claim Objections

Claims 16, 18 and 24-25 are objected to because of the following informalities: The elected species described in the specification, page 11, lines 18-21, and illustrated in Fig 11 show that "a material" recited in claims 16, 18, 24 and 24, line 6, and "a substrate" recited in line 2 of each claim are not separate/different components (44). Thus, in order to make the claim clear, "a material" in each claim should be changed to --a material of the substrate--. Appropriate correction is required.

Allowable Subject Matter

Claims 16-29 are allowed. Note that non-elected claims 51-57 are no longer rejoined by the examiner.

Claims 45-50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In regard to claims 16-29 and 46-50, see reasons for allowance in the Office action mailed 5/2/06.

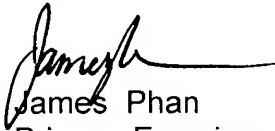
In regard to claim 45, the use of cube-corner prisms instead of microspheres for retroreflecting light is well known in the art; however, there is no motivation to modify Stump et al so as to include "the cube-corner prisms along a plurality of second substrate" in combination with the remaining features of the claim.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Phan whose telephone number is (571) 272-2317. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allen B. Stephone can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


James Phan
Primary Examiner
Art Unit 2872

JP
Feb. 2007